14. Management of Acid-Generating Tailings in a Streamside Setting

ALTERNATIVES ANALYSIS FOR MINE WASTE RELOCATION REPOSITORIES
Grant, B.R.; M. Cormier; W.H. Bucher, Maxim Technologies Incorporated, Helena, MT
Tailings and Mine Waste '00. Proceedings of the 7th International Conference, January 2000, Fort Collins, CO
A.A. Balkema, Netherlands. ISBN: 9058091260. p 331-340, 2000

The Streamside Tailings Operable Unit, Silver Bow Creek/Butte Area, Montana NPL site requires disposal of mine and milling waste materials in mine waste relocation repositories. The Record of Decision (ROD) for the site requires that the mine wastes be amended with lime and revegetated, and that the repositories be sited in a protective location, potentially near Silver Bow Creek. If the near-stream setting for repositories are not sufficiently protective of human health and the environment, then the ROD provides for locating the repositories off-site where conditions would be
more protective. An analysis was completed for the purpose of comparing the nearstream and off-stream settings, as well as to assess what types of design elements could be incorporated into the repository to raise the level of protectiveness to the environment. The completed analysis explored
liner system alternatives, leachate generation rates, synthetic leachate characteristics, soil attenuation characteristics, estimated contaminant concentrations (particularly arsenic) in groundwater, and the cost associated with each of the alternatives.

TREATMENT OF FLUVIALLY DEPOSITED STREAMSIDE MINE WASTE: MATERIAL FROM CANYON CREEK, IDAHO
Paulson, A.J.; R. Balderrama; E. Zahl, Dept. of Energy, Spokane, WA. Spokane Research Center
Report No: BUMINES-RI-9633. NTIS: PB97-134415. 66 pp, Aug 1996

Three mine-waste-contaminate materials from the flood plain of Canyon Creek, ID, were separated by size to determine if the amount of on-site metal release could be reduced. Comparing weighted-average metal release of damp-screened, sized fractions with metal release from original materials suggested that separation marginally reduced metal releases. In contrast, wet screening of all three material types led to significant reductions in metal releases without removing any solid materials. However, the results from some column leaching tests suggest that some of these effects may be only temporary.

MINING AND THE ENVIRONMENT, A CHALLENGE TO ENGINEERING
Worcester, Samuel A., Montana College of Mineral Science & Technology, Butte
Minerals, Metals & Materials Society [et al.]: Emerging Separation Technologies for Metals & Fuels Symposium, 13-18 March 1993, Florida. p 355-356

The economic and technical difficulties of implementing Superfund cleanup requirements are discussed. The mining industry faces an economic atmosphere that is not conducive to use of innovations to solve cleanup problems. For example, streamside deposits of mine tailings might have been processed economically and deposited in active tailings impoundments, but for unsettled liability questions. Superfund should promote recovery technologies. This paper lists examples of such technologies.

SUPERFUND EXPLANATION OF SIGNIFICANT DIFFERENCE FOR THE RECORD OF

DECISION (EPA REGION 8): SILVER BOW CREEK/BUTTE AREA SILVER BOW AND DEER LODGE, MT, AUGUST 31, 1998
U.S. EPA, Washington, DC. Office of Emergency and Remedial Response.
Report No.: EPA 541-R98-116. NTIS: PB98-963125. 38 pp, Dec 1998

This document presents an explanation of significant differences from the Record of Decision (ROD) for one Streamside Tailings Operable Unit (SSTOU) of the Silver Bow Creek/Butte Area National Priorities List (NPL) Site. The significant differences discussed in this ESD are 1) an increase in the volume of tailings/impacted soil in the operable unit; 2) modifications to the alignment of Silver Bow Creek and the channel profile (i.e., elevation profile); 3) use of a temporary stream diversion during and after construction to facilitate dewatering and excavation of near-stream tailings and to enhance floodplain and streambank revegetation efforts; 4) changes in the criteria for in-stream sediment removal as a result of other design changes; 5) modifications to the mine waste relocation repository (MWRR) design; 6) the inclusion of sediment basins to contain contaminated overland flow run-on from off-site mine waste sources; 7) elimination of treatment wetlands as the end land use in Subarea 1; 8) changes in the estimated schedule to implement the SSTOU remedy; and 9) an increase in the estimated cost of the SSTOU remedy.